BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

REMARKS

Applicants have amended Claims 2, 4, 6-9, 12 and 14 to more distinctly claim the present invention. Applicants note the Examiner's withdrawal in the Final Office Action paragraph 2 of the objections to the specification and in paragraph 3 the withdrawal of the objections to Claims 1, 4 and 19. Applicants respectfully request entry of the above amendment, favorable consideration of the following remarks, withdrawal of the claim rejections, and passage of the pending claims to allowance.

Regarding paragraph 4 of the Final Office Action, Applicants respectfully point out that the action of thermal fuses is not per se current related, but rather thermal fuses respond to temperature extremes. Applicants have appended hereto two pages taken from a commercial supplier's web site in which thermal fuses are described as responding to temperature maximums. These fuses are also described as suitable for service with specific voltages and/or currents. The Applicants respectfully assert that the Examiner has not considered the primary thermal response characteristic of these fuses, but has considered only the service current specification. As a specific example, the preferred embodiment utilizes 20D201K MOVs in conjunction with thermal fuses FESUFE Model SF139U-1. Applicants respectfully request that the Examiner reconsider the action of the thermal fuses in the inventive circuit.

The Examiner further states in paragraph 4 that the specification fails to identify a relationship between specific thermal fuses and specific MOVs. Applicants respectfully direct the Examiner's attention to the specification paragraphs 0017 and 0022, in which TF5 is associated with MOV1 and MOV4, TF3 is associated with MOV2, and TF6 is associated with MOV3.

IN THE CLAIMS

The pending rejections are under 35 U.S.C. §112 and 35 U.S.C. §103 which the Applicants respectfully traverse herein. Accordingly, the Applicants respectfully assert that no claims have been narrowed within the meaning of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 234 F.3d 558 (Fed. Cir. November 29, 2000). Therefore, reconsideration of the present application, in light of these remarks, is respectfully requested.

35 U.S.C. §112 REJECTIONS

In paragraph 6 of the Final Office Action, the Examiner rejected Claim 11 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement by not explicitly claiming how the hot and neutral lines are simultaneously opened.

In the event of an over-voltage condition on the hot line relative to the neutral line, MOV2 and MOV3 will both absorb the extra voltage and become hot. If the over-voltage exceeds the MOV's ratings, they will over-heat and cause thermal fuses TF3 and TF6 to open, thereby interrupting both the hot and neutral lines. The action of the thermal fuses is caused by the heating of the MOVs, not by the current flowing as interpreted by the Examiner. Applicants respectfully assert that the combination of Figure 1 and paragraphs 0017 and 0022 are sufficient to enable a practitioner skilled in the art to make and use the claimed invention. It is respectfully urged that Claim 11 is now in form for allowance and such allowance is hereby requested.

35 U.S.C. §103 REJECTIONS

In paragraph 7 of the Final Office Action, the Examiner rejected Claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over Lee, U.S. patent 4,901,183 in view of Jeffries et al., U.S. patent 6,055,147 (Jeffries). The Examiner states that Lee teaches the placement of MOV circuits across the hot-neutral, hot-ground and neutral-ground lines, but did not disclose two over-voltage protection circuits connected in parallel between the hot line and the neutral line.

Lee teaches an over-voltage protection circuit using current reactive fuses F1 and F2. Lee recites at column 4, lines 31-33: "The fuses selected in the preferred embodiment of the present invention are fast-blow, high precision fuses rated at 12.0 Amperes". Lee neither teaches nor suggests the use of thermal fuses to protect the MOVs of the circuit.

Applicants respectfully point out that the claimed invention comprises two over-voltage protection circuits of MOVs protected by thermal fuses disposed between the hot and neutral lines, a circuit neither taught nor suggested by Lee. This is explicitly claimed in Claim 4 which recites:

4. The apparatus, as recited in Claim 3,

wherein each of the over-voltage protection circuit comprises:

a. a thermal fuse; and

b. a metal oxide varistor (MOV),

wherein the thermal fuse associated with the first over-voltage protection circuit is disposed in parallel with the ground line and hot line,

wherein the thermal fuse associated with the second over-voltage protection circuit is disposed in series with the neutral line,

wherein the thermal fuse associated with the third over-voltage protection circuit is disposed in series with the hot line,

wherein the thermal fuse associated with the fourth over-voltage protection circuit is disposed in parallel with the ground line and neutral line,

wherein the MOV associated with the first over-voltage protection circuit is disposed in parallel with the hot line and the ground line,

wherein the MOV associated with the second over-voltage protection circuit is disposed in parallel with the hot line and the neutral line,

wherein the MOV associated with the third over-voltage protection circuit is disposed in parallel with the hot line and the neutral line,

wherein the MOV associated with the fourth over-voltage protection circuit is disposed in parallel with the neutral line and the ground line; and

whereby the MOV associated with the fourth over-voltage protection circuit being disposed in a manner facilitating response to an over-voltage condition occurring between the neutral line and the ground line.

Claims 2-6, 8-10, 12-15 and 17-19 properly depend from and further limit the independent claims and are thus allowable by reason of their dependency on allowable claims. Applicants therefore respectfully request that the above rejection be withdrawn, and Claims 1-19 be allowed.

In paragraph 7, the Examiner cites Jeffries as teaching the use of parallel MOVs in a surge protection device. While Jeffries teaches a device having a parallel arrangement of MOVs, plus fuses in series with each MOV, Jeffries neither teaches nor suggests that the fuses could or should be thermal fuses for protection of the MOVs. Jeffries teaches only that element 111 is a current limiter, not a thermal protection device. Therefore, Applicants respectfully assert that it is not obvious, in the absence of any teaching or suggestion, to combine Jeffries with Lee as the Examiner states.

The Applicants therefore respectfully assert that, absent explicit teaching, the teaching of a current limiting device by Jeffries does not make obvious the use of thermal protection

fuses as in the present invention. Applicants respectfully assert that there is no suggestion in Jeffries that would lead a practitioner to replace the fast-blow precision fuses of Lee (col 4, lines 31-35) with thermal fuses associated with a specific MOV to arrive at the over-voltage protection circuit of the present invention. Absent any suggestion or motivation in either Lee or Jeffries to combine their respective teachings, a practitioner would not be lead to alter the circuitry of Lee as in the present invention. Applicants respectfully request therefore that this rejection be withdrawn, and Claims 1-19 be allowed.

It is difficult if not impossible to comment on a proposed combination where there is nothing in the cited art suggesting or teaching combination of elements. The Federal circuit has recently commented on this practice. The most recent case on the combination of references without adequate foundation is *In re Zurko* 59 USPQ 2d 1693 (Fed. Cir. 2001) where the Federal Circuit reversed the Board of Appeals upholding of a rejection, where the rejection was based upon the "basic knowledge" or "common sense" of a person of ordinary skill in the art. Specifically, the Court held that any such rejection must be supported by concrete evidence in the record. As the Court discussed in reversing the Board:

> With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather the Board must point to some concrete evidence in support of these findings. To hold otherwise would render the process of appellate review for substantial evidence on the record a meaningless exercise.

The 35 U.S.C. §103 rejection is based on unsupported statements of possible combination of elements from the cited art, which does not suggest the claimed features of the invention. For this reason, Applicants respectfully request withdrawal of the rejection and passage to issue.

Regarding any potential rejection based upon combination of Lee with Jeffries, it is respectfully urged that the references must suggest the combination and not that the specification includes elements of the claimed invention. Disregarding disclosures in the references, which diverge from or teach away from the claimed invention, and picking and choosing from the references only so much as will support a rejection is reversible error. In *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303 (CAFC 1983) it was held:

> In its consideration of the prior art, however, the district court "erred...in considering the references in less than their entireties, i.e., "in disregarding disclosures in the references that diverge from and teach away from the invention at hand." (Emphasis added).

In "accord is *Panduit Corp. v. Dennison Mfg. Co.*, 227 USPQ 337, 344 (CAFC 1985). Similarly, in *Bausch & Lomb, Inc. v. Barnes©Hind/Hydrocurve, Inc.*, 231 USPQ 416, 419 (CAFC 1986) it was held:

> "It is "impermissible within the framework of Section 103 to pick and choose from any one reference only so much of it as will support a given position "to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art." (Emphasis added).

In view of the above, all of the Office Action's characterizations of the teachings of the applied references are respectfully traversed. With the above rules of law in mind, considering the references applied by the Office Action in rejecting claims 1-19, Lee and Jeffries do not teach all of the claimed invention. Directly in point is *In re Shaffer*, 108 USPQ 326, 329 (CCPA 1956) where the Court reversed the examiner, saying:

> In fact, a person having the references before him who was not cognizant of appellant's disclosure would not be informed that the problem solved by appellant ever existed. Therefore, can it be said that these references which never recognized appellant's problem would have suggested its solution? We think not, and therefore feel that the references were improperly combined since there is no suggestion in either of the references that they can be combined to produce appellant's result.

Here, as in *In re Shaffer*, supra, it is apparent that Lee and Jeffries could not make the present invention obvious since it is not clear that Lee and Jeffries were aware of the MOV overheating problem so adroitly and simply solved by Applicants, and so they could not have suggested Applicants' ingenious solution to the problem.

It is urged in the rejection that it would be obvious for a person of average skill in the art to substitute portions of Jeffries into Lee. The applicable legal standards for combining references were reiterated by the Patent Office *Board of Appeals in Ex Parte Skinner*, 2 USPQ 2d 1788, 1790 (P.O. Bd. App. 1987). There the Board "reversed the examiner's combination of references, saying:

> To properly combine the references to reach the conclusion that the subject matter of claims 20 and 21 would have been obvious, "case law requires that

there must have been some teaching, suggestion, or inference in either reference, or both, or knowledge generally available to one of ordinary skill in the relevant art, which would have led one of ordinary skill in the art to combine the relevant teachings of the references.

Similarly, see *ACS Hospital System, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984).

> "When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why combination of the reference teachings is proper. In other words; the examiner "must indicate the "reasons why one skilled in the art would have substituted the sputtered chromium/rhodium combination of the Japanese patent for the sputtered chromium of the Nyman reference when it was substituted for the metal plated chromium of the Muzutani patent. Absent such reasons or incentives, the teachings of the references are not combinable. We "reverse the examiner's rejection." (Emphasis added).

In accord is *In re Geiger*, 2 USPQ 2d 1276, 1278 (CAFC 1987). Also directly in point is the case of *Ex Parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (P.O. Bd. App. 1984) where the Board "reversed the examiner's rejection saying:

> The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is "not by itself sufficient to support a finding of obviousness. The "prior art must provide a "motivation or reason for the worker in the art, "without the benefit of the appellant's specification, to make the necessary changes in the reference device. The Examiner has "not presented any evidence to support the conclusion that a worker in this art would have had any "motivation to make the necessary changes in the Baney device to render the here claimed device unpatentable.

In further accord is *Fromson v. Advance Offset Plate, Inc.*, 225 USPQ 2631 (CAFC 1985). Also pertinent is the case of *Panduit Corp. v. Dennison Mfg Co.*, 227 USPQ 337, 343 (CAFC 1985) where the Court stated:

> It is impermissible to first ascertain factually what appellants did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct appellants' invention from such prior art.

Or, as stated more colorfully by the *CAFC in Orthopedic Equipment Co., Inc. et al v. U.S.*, 217 USPQ 193, 199 (CAFC 1983):

> **"It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.** Monday morning quarterbacking is quite "improper when resolving the question of nonobviousness in a court of law." Applying the above rules of law to the present case it is respectfully submitted that there is no "teaching, suggestion or inference" (emphasis added)(Ex parte Skinner, supra).

There is no suggestion in any of the cited art that their teachings be combined; nor do they provide any "motivation or reason" (Ex Parte Chicago Rawhide, supra) for being combined. The Office Action does not even attempt to present any possible reason why a person of ordinary skill in the art would combine these references except for language in the claim sought to be rejected. Any such combination thus must be regarded as a result of hindsight gleamed from the application being examined.

Further in paragraph 7 of the Final Office Action, the Examiner rejected Claims 7, 13 and 17 as being obvious in view of Lee, citing Lee "it will be understood that many modifications, such as the use of circuit breakers, manual ON/OFF switches, power indicators, failure indicators and the like, will be readily apparent to those of ordinary skill in the art" (col 6 lines 42-46). As noted above, the Examiner acknowledges that Lee neither suggests nor teaches the use of two MOV over-voltage protection circuits in parallel between the hot and neutral leads. Instead, Lee teaches circuitry which locks up, rendering the device unusable until serviced by a trained service technician.

Applicants respectfully disagree with the Examiner that it is obvious to combine the circuitry of Lee with that of Jeffries to arrive at the presently claimed invention. Applicants respectfully assert that the present inventive circuitry most economically and uniquely achieves a user-friendly device which is neither suggested, taught, nor made obvious by Lee. Applicants' independent Claim 7 therefore properly claims a unique apparatus containing dual MOV over-voltage protection using thermal fuses and is not made obvious by Lee. Depending Claims 13 and 17 properly depend from allowable Claims 11 and 16 respectively and further limit the independent claims, thus they are allowable by reason of their dependency. Applicants respectfully request therefore that this rejection be withdrawn, and Claims 7, 13 and 17 be allowed.

In paragraph 7 of the Final Office Action, the Examiner again rejected Claims 2, 6, 9

and 14 as being taught by Lee. Claims 2, 6, 9 and 14 properly depend from and further define the invention of Claims 1, 7 and 11 respectively, which Applicants respectfully assert are allowable as discussed above. Therefore, Applicants respectfully request that this rejection be withdrawn and Claims 2, 6, 9 and 14 be passed to allowance.

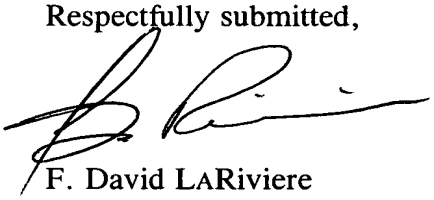
In paragraph 7 of the Final Office Action, the Examiner again rejected Claim 3 as being taught by Lee. Claim 3 properly depends from and further define the invention of Claim 1, which Applicants respectfully assert is allowable as discussed above. Therefore, Applicants respectfully request that this rejection be withdrawn and Claim 3 be passed to allowance.

In paragraph 7 of the Final Office Action, the Examiner rejected Claims 5, 10, 15, 18 and 19 as being taught by Lee. Claims 5, 10, 15, 18 and 19 properly depend from and further define the invention of Claims 1, 7, 11 and 16 respectively, which Applicants respectfully assert are allowable as discussed above. Therefore, Applicants respectfully request that this rejection be withdrawn and Claims 5, 10, 15, 18 and 19 be passed to allowance.

CONCLUSION

Claims 2, 4, 6-9, 12 and 14 are herein amended to more distinctly identify and clearly claim the present invention, notwithstanding Applicants' belief that the claims were allowable as originally presented. Applicants believe the claims are now allowable. Applicants respectfully submit that the presently claimed invention is patentably distinct over the cited references, and Applicants therefore believe that the claims are non-obvious in view of Lee and Jeffries *et al.* as required by 35 U.S.C. §103. Therefore Applicants believe the present invention as claimed is patentable. In view of the foregoing amendment and remarks, favorable consideration by the Examiner, entry of the above amendment, withdrawal of the present objections and rejections, allowance of Claims 1-19, and passage of the present application to issuance are accordingly solicited. The Examiner is cordially invited to telephone the undersigned for any reason which would advance the pending claims toward allowance.

Respectfully submitted,



F. David LaRiviere
Reg. No. 27,207

FDL/CKC/sf
Dated: June 29, 2004
LaRIVIERE, GRUBMAN & PAYNE, LLP
Post Office Box 3140
Monterey, CA 93942
(831) 649-8800

RadioShack
You've got questions. We've got answers.®

Type a keyword or product number

FIND

STORE LO

Zip coc

Accou

VIEW ALL CATEGORIES | MONTHLY AD | WHAT'S NEW | WHAT'S ON SALE | COUPONS | PRODUCT MANUALS | COMP

>>Back to Product Catalog

Refine your search:

Price

$1.49 (3)

$2.49 (3)

We've got Answers.

You asked: fuse,thermal

Your request so far: Mentions: **fuse** ☒ and **thermal** ☒

We found 6 answers

?

Advanced Optio

Answers per page: 25

View by:

Sort by: Rele

We also found answers in Product Manuals (109) and Other Sites (101)

1 - 6 of 6 shown

Search within these results for: within: (all)

Item	Name	Price	Description
 270-1320	Thermal Protector Fuse Add to Cart	$1.49	Used as a safety protector in many coffeemake appliances and other heat in-type devices. Ope 141° C or 288° F. It will ... **Radio Shack** **No model information available** MORE
 270-1321	Thermal Protector Fuse Add to Cart	$1.49	Used as a safety protector in many coffeemake appliances and other heat in-type devices. Ope 228° C or 443° F. It will ... **Radio Shack** **No model information available** MORE
 270-1322	Thermal Protector Fuses Add to Cart	$1.49	Used in many coffeemakers, small kitchen app heating-type devices. Rated 240VAC, 10A. **Radio Shack** **No model information available** MORE
 270-1041	Ceramic 1 1/4"x 1/4" Fuses for Microwave Ovens-20.0A 250V Add to Cart	$2.49	ABC/3AB series. This fuse has 20.0 amps. 25(**Radio Shack** **No model information available** MORE
 270-1040	Ceramic 1/4 x 1-1/4" Fuses for Microwave Ovens-15A 250V Add to Cart	$2.49	ABC/3AB series. 250 Volts, package of 4. Use ovens. **Radio Shack** **No model information available** MORE
 270-1039	Ceramic 1-1/4x1/4" Fuses for Microwave Ovens-10.0A 250V Add to Cart	$2.49	ABC/3AB series. Pkg. of 4. **Radio Shack** **No model information available** MORE

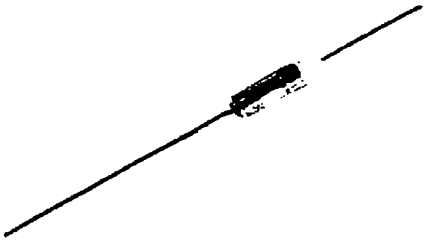
Thermal Protector Fuse

$1.49

Brand:
RadioShack

Catalog #: **270-1321**

(Pricing and Availability may vary outside the contiguous 48 United States.)



Where to Buy	
On-line	Yes
1-800-THE-SHACK (1-800-843-7422)	Yes
In Stores	Yes

Used as a safety protector in many coffeemakers, small kitchen appliances and other heat in-type devices. Open circuit when 228° C or 443° F. It will reach a 10A max. current.

Tuesday, May 25, 2004 1:58:19 PM

Title: "Tri-Mode Over-Voltage Protection and Disconnect Circuit Apparatus and Method"
Docket No.: P1396 Serial No.: 10/046,062

Express Mail Label Number: **EL974229617US**
Express Mail Date In: June 29, 2004
Please acknowledge receipt of the documents described below by imprinting the Patent and Trademark Office "Date Stamp" hereon and returning to the addressee indicated on the reverse hereof.

1. Transmittal Letter (2 pages);
2. Amendment in Response to Final Office Action(17 pages);
3. Attachment pages (2 pages); and
4. Postcard in acknowledgment of all transmitted materials.

*****IMPORTANT NOTICE*****
PLEASE STAMP WITH SAME DATE AS EXPRESS MAIL "DATE IN" as shown above, per 37 CFR 1.6(a)(2)

EL 974229617 US

Mailing Label
Label 11-F June 2002

EXPRESS MAIL
UNITED STATES POSTAL SERVICE®

Post Office To Addressee

ORIGIN (POSTAL USE ONLY)

PO ZIP Code	Day of Delivery ☐ Next ☐ Second	Flat Rate Envelope ☐
Date In Mo. Day Year	☐ 12 Noon ☐ 3 PM	Postage $
Time In ☐ AM ☐ PM	Military ☐ 2nd Day ☐ 3rd Day	Return Receipt Fee
Weight lbs. ozs.	Int'l Alpha Country Code	COD Fee / Insurance Fee
No Delivery ☐ Weekend ☐ Holiday	Acceptance Clerk Initials	Total Postage & Fees $

DELIVERY (POSTAL USE ONLY)

Delivery Attempt Mo. Day	Time ☐ AM ☐ PM	Employee Signature
Delivery Attempt Mo. Day	Time ☐ AM ☐ PM	Employee Signature
Delivery Date Mo. Day	Time ☐ AM ☐ PM	Employee Signature

☐ **WAIVER OF SIGNATURE** *(Domestic Only)* **Additional merchandise insurance is void if waiver of signature is requested.** I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery.

NO DELIVERY ☐ Weekend ☐ Holiday

Customer Signature

CUSTOMER USE ONLY
METHOD OF PAYMENT:
Express Mail Corporate Acct. No. X939055
Federal Agency Acct. No. or Postal Service Acct. No.

FROM: (PLEASE PRINT) PHONE (831 649 8800

LA RIVIERE GRUBMAN & PAYNE LLP
19 UPPER RAGSDALE DR STE 200
BLDG 1
MONTEREY CA 93940-5741
P1396 (581-054) 10/046,062
response to final office action
KC/sf

TO: (PLEASE PRINT) PHONE ( )

MAIL STOP AF
COMMISSIONER FOR PATENTS
PO BOX 1450
ALEXANDRIA, VA 22313-1450

PRESS HARD.
You are making 3 copies.
FOR PICKUP OR TRACKING CALL 1-800-222-1811 www.usps.com
EMS

P1396

faf

1347 200 F:02 T: